

### CLAIMS

1. A composition for preparing rigid polyurethane foam comprises:

(1) 100 weight parts of a polyol mixture consisting of:

5 40-50 weight parts of polyol B having a OH-value of 390, which is obtained by polymerization of an organic oxide using toluene diamine (TDA) of a tetra-valent functional group as an initiator; 30-40 weight parts of polyol G having a OH-value of 450, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group; and  
10 20-30 weight parts of polyol H having a OH-value of 430, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group;

(2) 2.0-4.0 weight parts of water;

(3) 0.3-3.0 weight parts of catalyst mixture consisting of 0.1-1.0 weight  
15 parts of gelling catalyst A; 0.1-1.0 weight parts of blowing catalyst B; and 0.1-1.0 weight parts of trimerizing catalyst E;

(4) 1.0-4.0 weight parts of a silicon surface-active agent;

(5) 0.5-1.5 weight parts of PFA (polyfluoroalcane);

(6) 10-20 weight parts of cyclopentane; and

20 (7) 140-170 weight parts of polyisocyanate.

2. A composition for preparing rigid polyurethane foam according to claim 1, comprises;

(1) 100 weight parts of a mixed polyol consisting of:

25 40 weight parts of polyol B having a OH-value of 390, which is obtained

by polymerization of an organic oxide using toluene diamine (TDA) of a tetra-valent functional group as an initiator; 30 weight parts of polyol G having a OH-value of 450, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group; and 20-30 weight parts of polyol H having a OH-value of 430, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group;

(2) 2.0 weight parts of water;

(3) 1.5 weight parts of catalyst mixture consisting of 0.6 weight parts of gelling catalyst A; 0.4 weight parts of blowing catalyst B; and 0.5 weight parts of trimerizing catalyst E;

(4) 2.0 weight parts of a silicon surface-active agent;

(5) 1.0 weight parts of PFA (polyfluoroalcane);

(6) 17 weight parts of cyclopentane; and

(7) 148.2 weight parts of polyisocyanate.

3. A rigid polyurethane foam prepared by the composition of claim 1 or 2.